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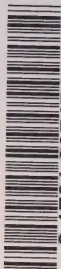
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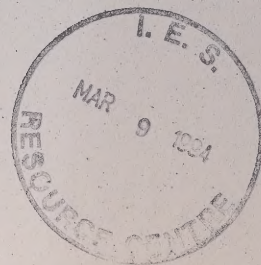
RESTORING AND PROTECTING THE GREAT LAKES. 1993.

RESTORING AND PROTECTING THE GREAT LAKES

Highlights from the progress report



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❖ INTRODUCTION

Ontario's progress report, *Restoring and Protecting the Great Lakes*, documents a major turning point in the future of one of world's greatest natural treasures. During the past two years, key Ontario environmental programs have moved off the drawing board and into action.

The result: The province is making significant progress in honoring Canada's obligations under the Canada-U.S. Great Lakes Water Quality Agreement.

Ontario, as the only Canadian province bordering the Great Lakes, plays a unique role in their protection. This booklet offers highlights from the progress report which was prepared for the October 1993 meeting of the International Joint Commission (IJC), the organization which oversees agreements on boundary waters between Canada and the U.S.

❖ ONTARIO PROGRAMS AT WORK

The Ontario government works in partnership with other governments, industry, the agricultural community and members of the public to clean up the contaminated sites and to prevent further pollution.

Ontario has adopted a variety of strategies to tackle the problems: pollution prevention, pollution control, cleaning up polluted sites and rehabilitation of fish and wildlife habitats.

In support of these partnerships and strategies, Ontario has developed a wide range of programs that reflect the common, overriding goal of restoring and protecting the Great Lakes basin and they are proving their worth in terms of positive results.

❖ CLEAN WATER REGULATIONS

The Municipal/Industrial Strategy for Abatement (MISA) program is a major Ontario initiative aimed at preventing, reducing or eliminating water pollution problems that originate with industries and municipalities. Its ultimate goal is to eliminate the discharge of persistent toxic contaminants into all Ontario waterways.

Approximately 300 direct discharging industries in nine major industrial sectors and about 400 municipal sewage treatment plants are being required to reduce, and in some cases eliminate, discharges of specific substances to the Great Lakes.

To date, Ontario has in place a legal clean water regulation for the petroleum refining sector; draft clean water regulations for the pulp and paper,

Collectively, Lakes Erie, Huron, Michigan, Ontario and Superior represent one-fifth of the world's fresh surface water supply and a wealth of economic, recreational and life-sustaining benefits for those who live along their shores.

The Canada-U.S. Great Lakes Water Quality Agreement outlines a co-ordinated, binational approach to solving pollution problems in the Great Lakes.

Decades of neglect and abuse have taken their toll on the Great Lakes and their inter-connecting channels. While there is no doubt the problems are serious and the challenge is great, Ontario is dedicated to achieving a healthy Great Lakes system.

metal mining, metal casting and industrial mineral sectors have been released for public review and comment. Other draft clean water regulations, including organic and inorganic chemicals, are scheduled for release in late 1993. Many of the industries that make up these sectors have already begun to eliminate or reduce discharges to the Great Lakes as a result of their commitment to the principles of the MISA program.

More and more industrial action plans are being implemented. The environmental benefits of the clean water regulations will be:

- reduced concentrations or elimination of toxic chemicals in open waters and bottom sediments;
- reduced levels of contaminants in fish and fish-eating birds;
- reduced health risks for people who use the Great Lakes for recreation and as a source of drinking water and food.

■ WATER AND SEWAGE TREATMENT

Between April 1990 and March 1993, the Ontario government invested \$538.5 million in grants to municipalities in the Great Lakes basin for improving water and sewage systems throughout the province.

In February 1993, Ontario Premier Bob Rae announced the investment of an additional \$258 million by the jobsOntario capital program for the upgrading and construction of new sewage treatment and water treatment facilities throughout the province. In the same month, the Premier and Environment and Energy Minister Bud Wildman also announced the creation of the Ontario Clean Water Agency, dedicated to investment in the development of water and sewer infrastructure. It will operate municipally and provincially-owned sewage and water treatment facilities, assist municipalities in upgrading these facilities for the protection of human health and the environment, and will encourage water conservation planning.

■ REMEDIAL ACTION PLANS (RAPs)

The Canadian remedial action plan (RAP) program is a joint effort involving local communities, led by the governments of Ontario and Canada to restore water quality at 17 of a total of 43 areas of concern in the Great Lakes Basin.

Ontario has already launched a number of initiatives. Some highlights and specific accomplishments include:

- Ontario now invests more than \$25 million annually in improvements to municipal sewage infrastructure in RAP areas.
- The RAP program and investment base has been expanded to include habitat rehabilitation and agricultural pollution prevention.
- The Greening of Collingwood project involves the entire community in reducing water and energy consumption, and the generation of garbage and hazardous household waste. Collingwood monitoring shows that the harbor water quality has improved dramatically and is well on the road to full recovery.
- In June 1993, the Thunder Bay RAP team and public advisory committee conducted a community cleanup of more than 125 km of shoreline that attracted 2,500 volunteers and collected \$63,000 in donations of cash and services.
- The Nipigon Bay RAP has successfully restored its Nipigon Bay habitat and fishery, involving the transfer of 15,000 adult walleye.
- Under the Severn Sound RAP and with \$6.6 million in provincial support, the phosphorus load from Elmvale effluent will be cut by 97 per cent when the village's new water pollution control plant is operating in 1994.

- With provincial funding assistance of over \$2 million, the City of Toronto has built a combined sewer overflow and stormwater detention tank to improve protection of the eastern beaches.

POLLUTION PREVENTION

In May 1992, the Ontario Ministry of Environment and Energy created the Pollution Prevention Office to focus on the government's commitment to pollution prevention program development.

By reducing or eliminating the creation of pollutants or wastes (toxic, hazardous and non-hazardous) at their source, pollution prevention makes the most sense, not only from an environmental standpoint, but also from a business point of view.

Under Ontario's pollution prevention strategy and in association with the federal government, a partnership with the automotive industry has been signed that will lead to the reduction or elimination of the use, generation or release of toxic substances throughout the industrial process. In May 1992, an agreement was signed with the automotive manufacturers' association; in June 1993, a similar agreement was signed with the metal finishing industry. By the end

of 1993, a third agreement will be concluded with the automotive parts manufacturers' association.

Through its pollution prevention pledge program, the ministry challenges companies to make voluntary reductions of pollutants to the environment, with a special emphasis on pollution prevention measures. Targets of 50 per cent reductions by 1995 and 90 per cent reductions by 2000 have been set for some of the most persistent toxic and bioaccumulative chemicals.

Through the Green Industry Analysis and Retrofit program, the Green Industry Office offers Ontario companies comprehensive green analyses to help them use energy and water more efficiently and to prevent, reduce and recycle waste, liquid and gaseous emissions.

BEACHES

Studies demonstrate that beach postings (closings) are caused by urban storm water runoff, agricultural drainage, combined sewer overflows, sewage treatment plant bypasses and discharges.

Ontario's beaches improvement program includes capital grant funding to municipalities to implement corrective measures to improve urban beaches.

In 1991 and 1992, the ministry provided capital grants to municipi-

palities totalling \$43.1 million to implement corrective measures, such as modifications and/or additions to sewage treatment plants to improve effluent quality, and control of combined sewer overflows.

The program to clean up rural beaches provides up to \$6 million in annual grants to rural residents for measures to prevent non-point sources of contamination, such as land runoff, and to eliminate beach closures. As of March 1993, the ministry had approved 1,200 rural beach projects.

MONITORING AND SURVEILLANCE

Ontario undertakes a comprehensive surveillance and investigations program for the Canadian Great Lakes. The provincial program generates information which assists the federal government in meeting international obligations under the Canada-U.S. Great Lakes Water Quality Agreement and serves provincial regulatory needs. In addition to the surveillance program, other province-wide monitoring programs collect data from Great Lakes locations.

- *Drinking Water:* Guidelines are used to assess the acceptability of drinking water in Ontario. The drinking water surveillance program surveys about 110 water treatment plants serving about 85

per cent of Ontario's population to provide current information on drinking water quality. About half of these systems are located on the Great Lakes.

- **Fish:** Data collected through the sport fish contaminant monitoring program are used to produce consumption advice to the public that is published every second year in the Guide to Eating Ontario Sport Fish. The data also provide an indication of the contaminant trends in water quality in the Great Lakes. In 1993, advice was provided for more than 1,600 locations across the province, including 214 locations in the Great Lakes and connecting channels. This program is a joint Ministry of Natural Resources and Ministry of Environment and Energy initiative.
- **Air:** Many toxic organic compounds are carried in the atmosphere and distributed broadly throughout the Great Lakes. Local industrial and vehicle emissions also contribute to contamination. At present, seven ministry stations monitor atmospheric deposition of polychlorinated biphenyls (PCBs), organochlorine pesticides, polynuclear aromatic hydrocarbons (PAHs) and dioxins in the Great Lakes basin.

❑ EMERGENCY SPILLS RESPONSE

Since 1985 Ontario has operated a Spills Action Centre to provide province-wide, 24-hour, toll-free access to the ministry for spills and other urgent environmental matters. The Spills Action Centre handles approximately 16,000 occurrences annually of which about 5,000 are defined as spills. The ministry coordinates spills response with other agencies to ensure spills are cleaned up by those responsible.

Approximately 80 per cent of the spills in Ontario occur within the Great Lakes basin.

The first decrease in reported spills occurred in 1991 when there were eight per cent fewer spills than in 1990, when the number of reported spills peaked at 5,600. A further decrease of about five per cent was recorded in 1992.

❑ ENFORCEMENT

Environmental protection in Ontario is guided by five acts:

The Ontario Environmental Protection Act; the Ontario Water Resources Act; the Pesticides Act; the Environmental Assessment Act; and the Niagara Escarpment Planning and Development Act. The ministry enforces these laws and their regulations.

Fines for environmental polluters were \$3.6 million in 1992, an increase of 33 per cent over the previous year.

❑ RESEARCH

Recognizing the important role that research plays in Ontario's clean-up efforts, the ministry contributes up to \$2 million annually for research into issues relating to a wide range of environmental concerns.

In partnership with the Ministry of Natural Resources, the ministry has funded 15 projects since 1991 totalling more than \$700,000 for research into finding solutions for eliminating or reducing the problem of zebra mussels.

A comprehensive inventory of Great Lakes-related research is compiled and updated annually by the IJC Council of Great Lakes Research Managers.



❖ BINATIONAL ACTIVITIES

The ministry is an active participant in a number of binational activities in support of Canada, including the Lake Ontario Toxics Management Plan, the Lake Superior Binational Program, and the Niagara River Toxics Management Plan. These initiatives coordinate Canadian and U.S. programs aimed at reducing the loadings of toxic chemicals discharged to the environment.

- Formed during a span of two million years by glacial and geological actions, the five Great Lakes are joined by four connecting channels to form the largest surface fresh water system in the world.
- Together they hold 20 per cent of the world's supply of surface fresh water.
- Approximately 25 million people obtain their drinking water from the Great Lakes.

❖ GREAT LAKES FACTS

- An average of 20 billion kilowatt hours of electricity are generated annually by using Great Lakes water.
- An estimated 45 per cent of Canadian manufacturing and 17 per cent of U.S. manufacturing is located in the Great Lakes basin.
- At least 72 per cent of Canadian and 70 per cent of U.S. steel production occurs in the Great Lakes basin.
- More than 90 per cent of Canadian cars and trucks and approximately 40 per cent of U.S. cars, trucks and buses are manufactured in the Great Lakes region.
- Ontario commercial fishers caught 24.5 million kg in 1990; the dockside value was about \$42 million.

- Approximately 2.5 trillion litres of Great Lakes water are used every day for such varied purposes as: domestic, agricultural, electric power generation; navigation; sanitation; recreation; industrial processes; and as habitat for aquatic life. Almost 97 per cent of this amount is returned to the system; the remaining three per cent leaves either through evaporation or through incorporation into products.

To obtain a copy of the Ministry of Environment and Energy's report *Restoring and Protecting the Great Lakes* (PIBS#2726e) or for more information, please contact:

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